

## AN INDUSTRY OF ARIZONA

(Continued from Page 1.)

grown. All this investment is imperiled by the present agitation.

"Aside from the demonstrated fallacy of the claim that the price of raw wool is responsible for the high price of clothing, aside from the recognized benefit that a great sheep industry would bring to this country, including the added advantage of an increased meat supply, there may be shown a direct advantage to the consumer in having his clothes made of American-grown wool. That advantage accrues from the fact that these clothes will last longer. Great students of fabrics recognize the superiority of American-grown wool. American wool is stronger, works better, wears better than imported wool. The government recognizes this, and in letting all its contracts specifies that American wool shall be used. When it calls for great quantities of clothing for the men of its army or its navy the government requires American wool. If the clothes of Americans were made of their own wool, they would be better clothes. If the sheep industry were given an opportunity, it would soon be producing enough wool to supply all the clothes that America uses. Why not give this industry of the people a chance?"

"Now, Mr. Speaker, there is yet another phase of the sheep business that should appeal to those who look to the future from the broad standpoint of progress. Half of the land of the nation is almost worthless. It is not today being farmed, and will never lend itself to farming. The dry lands of the west and the mountain regions may never be used for the planting of crops. Yet all of these will remain to the end of time adaptable to the grazing of sheep. The only revenue that they may ever yield to the generations to come will most likely be due to the flocks that graze upon them. Under the feet of these mild-faced creatures, that have been the companions of man since time began, they may go on through the ages producing wealth."

"Even those farms that are producing the crops of the nation are ever benefited by the tread of live stock. The preservation of the fertility of these farms is more aided by the feeding of live stock than through any other process. Those fields that are sapped of their fertility by the long-continued harvesting of crops, that take all ways from the soil and return nothing, may be restored to their virgin productivity by grazing sheep upon them and putting back in the soil the properties that are needed. There is a rational conservation in sheep raising from one end of the country to the other. There is a possibility of building up an industry of such proportions that the present scope of it will seem infinitesimal in proportion."

"Let us not disregard all these possibilities because of a cry that the sheepman's share in the \$2 that goes in raw wool into the making of a suit of clothes is a burden on the public. It were better to spend our energies in seeking the real burden than crying wolf over an evil that obviously does not exist."

## POSSIBILITIES OF RECLAMATION WORK

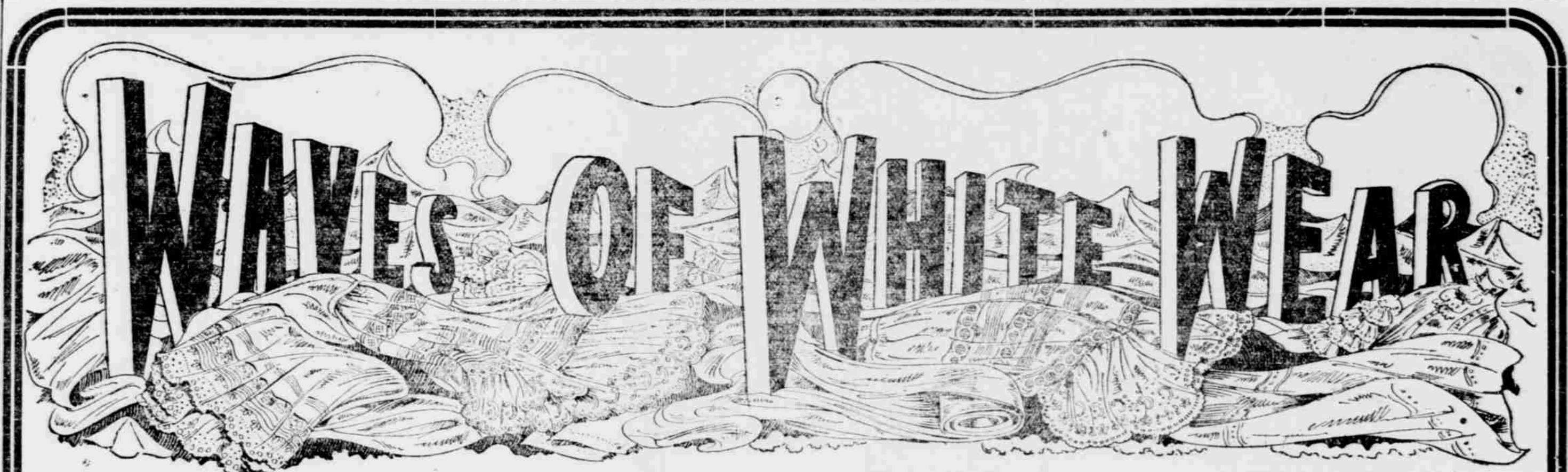
## WHAT MAY BE ACCOMPLISHED IN SULPHUR RIVER VALLEY.

Data of a Government Official Respecting Sources of Water Supply.

F. C. Kelton, who is connected with the governmental experiment station in Sulphur Springs valley, that great stretch of level country lying in the southeastern portion of Cochise county, has written to the Arizona Range News of Wilcox some very interesting data respecting the amount of land which may be ultimately reclaimed for agricultural purposes; the amount so impregnated with alkali as to be practically worthless, and the immense gypsum deposits lying about five miles east of Douglas. The Sulphur Springs valley has an area as large as Connecticut and Rhode Island combined, and then some. Expert Kelton declares that about 200,000 acres of this great empire is available for farming now, and profitable farming by pump irrigation, added to the annual rainfall, which varies from seven to as high as twenty-five inches a year.

About 70,000 acres, mostly in the big flat lying between Wilcox and Cochise, is so heavily charged with black alkali as to be worthless. Kelton also declares that with experience and cheap fuel to lessen the cost of pumping, an immense area of the valley outside of the 200,000 acres mentioned will come under cultivation. Speaking of the water supplies of the big valley, Kelton says:

"The water supplies of Sulphur Springs valley may be divided into direct rainfall, floodwater runoff and groundwaters. Rainfall and floodwaters do not contain alkali salt in any amount, but the groundwaters absorb salts from the soils through which they percolate. In general, it may be stated that groundwaters from the lower parts of the valley, and especially within the alkali district, contain the largest percentage of soluble salts, while those from the higher elevations are very good in quality. About two-thirds of the samples examined are more or less black alkaline in character, the amount of black alkali in many cases being insufficient to cause damage if used for irrigation. On the other hand, these black alkaline waters are soft, and make excellent waters for domestic and boiler uses. One-third of the samples of water examined contain an excess of calcium sulphate, which is an antidote for black alkali. In this



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connection it is interesting to notice that these two classes of waters are often located in such proximity to each other that they could undoubtedly be brought together and combined for irrigation in such a way that the black alkali contained in one would be neutralized and rendered comparatively harmless.

"It is interesting also to observe that large deposits of gypsum exist in Sulphur Springs valley, especially at a point about five miles east of Douglas, where it is now delivered on board the cars at \$1.30 a ton. At this price, and with railroads running through Sulphur Springs valley, it will undoubtedly be found possible to treat black alkali soils with this crude gypsum in order to reclaim these lands."

"In brief, therefore, I have to say that, in my opinion, one of the million or more acres of land contained in Sulphur Springs valley, probably 70,000 acres contain excessive amounts of alkali salts. Outside of these alkali areas are perhaps 200,000 acres of excellent land underlaid with water, within 50 feet from the surface, or less; and still outside of these pumping areas lie great stretches of grazing country which may gradually be reclaimed as problems relating to the best crop, plants, correct cultural methods and financial management are worked out."

## BUSINESS RUSHING AT SWANSEA SMELTER

## IMPROVEMENTS PLANNED BY THE CLARA CONSOLIDATED.

Exchange of Ores with the Cleopatra Is Proving Satisfactory.

An exchange of ores between the Consolidated Arizona Smelting company and the Clara Consolidated Gold and Copper Mining company and an increased tonnage in the shipments of the Cleopatra Copper company and the Clara smelter are the immediate results of the recent visit of George Mitchell, managing director of the Clara to Jerome, says the Parker Post. Since resuming operations at the Clara plant, Manager Mitchell has demonstrated that the Clara ores are short about one and three-quarters per cent in sulphur for fluxing purposes and he is desirous of acquiring ores carrying a high per cent of the latter. He is pleased at the results of his negotiations and the interchange of ores between the Humboldt and Swansea plants will be started at once and continued. He is now making a 65 per cent copper matte at the Clara.

Speaking of the properties of the Clara and the extensive improvement to increase the output and place the plant on the highest lines of efficiency, Mr. Mitchell said:

"Since the company purchased the property, seven million tons of ore have been established and the smelter and twenty-two miles of railroad built from House to Swansea at an approximate expenditure of \$1,500,000. A new number 11 blower will be installed in the next few days, which will increase the capacity to 550 or 600 tons a day. The company is also contemplating the installation of a new furnace, the recent invention of myself upon which I have letters patent from this and the principal European countries. The object

of the new furnace is the utilization of all heats generated through or by oxidation of sulphide ores, which are wasted under present methods. It will also do away with the present expensive machinery connected with smelters and concentrators.

"It is also the purpose of the management for further economical reasons to install a slag steam generating plant thereby using the waste heat in the slag for steam. From present indications this new power will reduce by the use of carbonaceous fuel the cost of ore treatment at least 65 per cent. The use of coke in smelting will be entirely eliminated by the new furnace and slag steam generator.

"At the power house a new 500-horse power boiler is being installed, increasing the horse power to 1,500. Fifty thousand gallons of water are being pumped from the mine daily and as depth is reached the flow is increasing. A switchback at the smelter is nearing completion which will eliminate the re-handling of custom ores, coke and timber for the mine. The new 14-foot addition to the concentrator building has been completed and many other improvements made in the last few months.

"The mine has been proved to a depth of 1,100 feet by churn drills and it is still in the oxide zone. It is estimated that sulphides will not be encountered until a depth of 1,500 feet is gained. One ore body shows continuous a length of 2,100 feet. Six feet of ore carrying native copper was cut last week between the 200 and 300 foot levels. This is part of a twenty-eight foot ore body that samples four per cent in copper. The assays of the native run from 11 to 17 per cent. Two distinct ore bodies, one on the foot and the other on the hanging walls, show in all the levels down to the 400 foot. On the 500 foot level a ninety foot ore body was proved recently and it is presumed that the two ore bodies have come together. Samples of the drillings gave returns varying from 3 to 17 per cent in copper. The deepest shaft is 550 feet or 750 feet along the ore body. Number 6, a double compartment, is now down 300 feet and is being sunk as rapidly as possible to the 1000 foot level. Number 5 shaft is also being sunk to be connected with number 6 at the 500 foot level where the large ore body was recently opened. These shafts are 720 feet apart and in the main ore body.

"Operations at the smelter were interrupted July 4 by a washout on the railroad. One hundred and fifty feet of track were carried away by the flood, stopping the delivery of custom ores. The road is being repaired and the treatment of ores will be resumed at once."

## DISREGARDED

"I see you put up a sign 'No mosquitoes'."

"Yes," replied Farmer Cornstomel; "but the mosquitoes don't pay any more attention to it than gunners pay to the sign 'No trespassing.'"

## GREAT HOPE FOR HIM.

Mrs. Murphy--Oh hear yer brother-in-law Pat Keegan, is pretty bad off.

Mrs. Casey--Shure, he's good for a year yet.

Mrs. Murphy--As long as that?

Mrs. Casey--Yis, he's had four different doctors, and each one av thim give him three months to live--Puck.

## A NEW THEORY OF BIRD MIGRATION

In a recent lecture at the Royal Institution, W. P. Pycraft has broached forward a new theory of the origin of migration. There are, he points out in the first place, a number of species in which migration is not possible. These are those birds which have become adapted to a particular food supply only occurring in a limited area. Such birds obviously cannot overstep the bounds of their food supply. As examples of such species the toucan, hornbills and birds of paradise are cited.

On the other hand, birds which feed on worms, molluscs and insects may gradually extend their range. Migration with these, in the first instance, is a sort of overwintering phenomenon. Thus the younger birds are driven further north year by year, as the suitable nesting areas are seized upon and defended by the others. Finally they are forced into these northern regions which the cold renders uninhabitable in winter. Thus, after the breeding season they are driven south in search of food and warmth. At the return of the breeding season the competition for food, combined with the desire to return to their nesting places of last year, will carry them north again. Again the winter overcrowding of the original area of the species will drive some still further south. These also would go north in spring to their old breeding sites, and so acquire the habit of migration.

Thus, according to Pycraft, it is not

the breeding instinct, but the search for food, or, as some have suggested, the desire of longer daylight that drives the birds north in spring; it is the press of numbers. They are, so to speak, squeezed out, and the migration becomes a habit. The birds which go farthest north in spring are thus, according to Pycraft, the youngest generation. And on their return journey these are the first to start. It has been often said that those birds which go farthest north in spring are those which go farthest south in winter. But Pycraft contends that this is only true of species, and not of individuals.

As a complete explanation of migration, the above theory seems to fail in not explaining why the migration process has not produced migration on north and south lines among our resident birds, such as jays, thrushes, starlings, etc. Nor does it seem to explain those great east and west migratory movements of those and other species. No wholly satisfactory explanation of the origin of migration has, in fact, been yet brought forward, and the complete solution may require a combination of existing theories in which Pycraft's interesting suggestions may take their place--London Globe.

## NOT MUCH LEFT OF HIM.

Tommy--My gran's gran in th' civil war, an' he lost a leg or an arm in every battle he in in!

Johnny--See! How many battles was he in?

Tommy--About forty.--Toledo Blade.

## CORPORATIONS DIFFUSE WEALTH.

The supreme court has ordered the dissolution of certain combinations in order that out of their elements may be created new structures, in accordance with the law, and there are other great corporations against which the department of justice has taken no steps. The supreme court has just recognized, and it ought to be recognized by everyone, that industrial and commercial development not only brings but necessitates the formation of great corporations, that they are a natural and inevitable factor in industrial evolution.

These corporations afford the opportunity for the diffusion of wealth such as the world has never before known. When the processes now under way to purge some of them of the evils that have beset them are completed, when their capitalization is fairly adjusted, when in all cases equitable voting rights are given to their share and security holders, their stocks and bonds will be accepted as sound investments by the intelligent and thrifty, their ownership will diffuse. The intelligent and the thrifty will thus tend, slowly perhaps, but surely, to come into the control of the industry and to the commerce of the country; and thus will be attained distribution of wealth and a social condition infinitely more desirable than the socialism which is urged by those who would give the property the same diffusion as the political franchise.

But even in this social status, which may not be so far remote as it may seem--for that this diffusion of wealth is in rapid process is shown by the increasing number of individual bond and stockholders in all of the large corporations--there will be needed the ablest men to conduct the operations that will be on a progressively larger scale. If that condition existed in complete fruition today, it is hardly a question that in a great majority of cases the men who are new on boards of directors, who are presidents, general managers and controllers, would be sustained in these positions by the vote of the intelligent and thrifty, who would constitute the industrial democracy. As it is today, the administration of the corporations is unquestionably more efficient than the administration of the state and municipal governments, or even, taking it all in all, of the federal government, whose officers are elected by the multitude or appointed by those so elected.--New York Sun.

## FRIENDLY

"Give me your candid opinion of these lines," said the young man with literary aspirations. "Do they convey any ideas of poetry to you at all?"

"Yes, there is something in every line that conveys the idea," answered the friendly critic, after looking them over. "Every line begins with a capital letter."--Chicago News.

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